CATS NEWSLETTER

The Official Journal of the Capital Area Timex/Sinclair Users Group

Presidential Ramblings

A few words first about the last meeting. The usual hard-core group showed up, undaunted by the warmer weather which reigned that day and, except for a short general meeting, much of the time was spent in going over both hardware (Ruth's sick disk drives) and software (maybe hardware) of the Kaypro K-10 which has Mark Fisher in an at-loss-for ideas as to why he can't get the machine to converse with the outside world through the commo serial port. It would be nice to run the BBS using the hard disk of the K-10 making easily available to users the stuff we have in our library.

Knowing full well how cooperative user's groups are, we will contact the Kaypro group for assistance and, with any luck, should be able to solve the problem.

Cliff Watson befuddled us with his manipulations of the 1000 and 2068 and showed us how to get DATA (not programs) across from the 1000. Programs are upgraded? by commercially available programs, but data represent a problem.

Herb Schaaf posed a poser for the group as to why some 5 1/4 drives can produce disks which any old other drive can read, while another drive might produce disks readable only on some other drives. He suggested an expeeriment (that's how some TV and radio persons pronounce the word experiment) which we can all

Winter Winds Make CATS Hot

The February 13th (or Mid-Winter) version of the CATS Monthly Meeting produced a host of heart-warming topics for all to discuss in the depths of the New Carrollton Library.

The library's small conference room (SCR) was truly equipment-saturated, with full QL configurations being set up by RUTH FEGLEY and HERB SCHAAF along with full-blown TS-1000 and TS-2068 demo arrays by CLIFF WATSON. A Kaypro-10 also wandered in with MARK FISHER, both searching for a friendly test-bed.

Bulletin Board Director (BBD) MARK FISHER reported the system is presently using a backup Kaypro-4 while he attempts to locate and correct a problem with a serial port in the larger Kaypro-10. For most users of the BBS, this difference between the two Kaypro's has been invisible.

Next Month: Talking 2068 & QL's

participate in. Fill up a disk with anything at all on each of your 5 1/4 drives labelling the disk as to which drive it represents. Pass these along to another member who can then try reading them on his drives, making note of which drive can or cannot read the disk. In this way, we can get statistics on interchangeability and you can know which of your drives is the best to use when making a disk for someone else. You can find the time to do this in between sending all your money to the IRS.

Did you QUANTA folk notice that our own Tom Robbins provided QUANTA with a means of hardware augmentation without any soldering or wiring? Remember - you heard it first here in a verbal form at one of our meetings. Mayhap not so thoroughly "splained", but he did tell us.

As we old bullfighters always say (fighters, not slingers) the moment of truth is shortly to be upon us. It's coming up on election time again, dear hearts, and we shall soon have a Nominating Committee burning up the wires in search of officer-candidates for the coming year. Search your soul and ask not what your club may do for you, but what you may do for the club. It would be a shame to have to take a club to persuade you to act. Be aware also of the words of our two-hatted BBS sysop and N/L editor who has publicly warned you that his tenure is to be limited. He also said he would not, repeat not, flesh out the N/L if submissions didn't arrive.

ANY CONCLUSIONS YOU MAY DRAW FROM THE FOREGOING ARE WITHIN THE REALM OF POSSIBILITY TO SAY NAUGHT OF PROBABILITY.

Astro-Sinclair Fans Sought
by C. H. Dickson

CATS Vice-president JOE MILLER recently noted the one-time existence of a group known as the Computer Astronomy Network (CAN) which published a bi-monthly newsletter out of Warren, New Jersey.

Six years ago CATS regularly exchanged publications with CAN, but about four years ago the CAN publications either stopped coming, became misdirected, or were lifted from Joe's large binders.

CAN's n/l contained some inviting topics, such as: "Converting MicroSoft Basic Astronomy Programs to Run in TS-1000 Basic".

There was also an on-going debate about the capability of the Sinclair machines (especially the TS-1000) to do astronomy exercises compared to other computers (e.g., Tandy, Apple II, Commodore 64, TRS-80, Atari, etc.).

Joe is presently interested in locating any visible vital signs belonging to CAN in order to:

1. Obtain the lost copies of their publication (which evidently spanned several years);

2. Republish some of their Sinclair items in the CATS n/l; and

3. Schedule a future meeting around the topic of using Sinclair machines in home astronomy.

Anyone who would like to help with an all-out, no-holds-barred SIG-search for this loose, national confederation of amateur astronomers should get in touch with Joe at 301-559-9134.

CLUE: At one time, CAN had its "Index of Articles" uploaded to CompuServe's Astronomy Forum. (Quo vadis?)

President MANNIE QUINTERO pointed out a Nominating Committee should be named soon to handle the upcoming June elections. It was suggested that BARRY WASHINGTON, although out-of-town, be asked to replicate the outstanding job he did last year as Nominating Committee Chairman. It was agreed that the emphasis be placed on having the current officers return for another annual term while recruiting fresh candidates for the two empty slots (program chairman and recording secretary).

DUANE PARKER and HERB SCHAAF are talking about a project to check the alignment of various floppy disk drives (a.k.a. "the good, the bad and the beautiful") used by CATS members.

Part of the project would be an attempt to get ahold of a "STANDARD DISKETTE", which is the main tool used in calibrating floppy disk drives. One of these items costs around $75 and cannot be copied (groan!).

Until this happens, Herb is thinking of collecting one freshly-minted diskette from every CATS member, properly labeled. This set of diskettes could then be run through each members own diskette drive(s) to see which work and which don't. A Standard Diskette and a screwdriver could then be used to correct any offending diskette drives.

As his project gains momentum, watch this space! You too may be joining HDP (Herb's Disk Patrol)!!

(Attendees, in no particular order, were: Mannie Quintero, Tim Acord, Mike Warmick, Ruth Fegley, Akin Olowofoyeku, Duane Parker, Mark Fisher, Herb Schaaf, Stan Guttenberg, Cliff Watson, and C. H. Dickson.)

C.H.D.

possession obsession

Computer Rooter

While most computer enthusiasts seek out the powerful and the popular, Tim Swenson searches for the quirky, the misunderstood, the machines quickly abandoned by their manufacturers.

"Everybody collects the old Apples, the Commodores, the Ataris," he says. "I like the ones that are different, that had personality. Plus," he adds, "I'm cheap." The most he's paid for any of the 37 types of computers he's collected: $50.

Even the era he prefers is unfashionable. "I like the 1980-85 models, when everybody and his dog came out with a machine," says Swenson, a captain in the Air Force and a systems analyst at the Pentagon. He holds out a Timex/Sinclair 1000, about twice the size of a checkbook. "This would do everything its competitors would. It just wasn't super powerful and didn't look pretty."

He picked up a Mattel Aquarius at an electronics swap meet for $10. And one guy actually gave him his oldest computer, a 1973 PDP-11/05, for free, saying his wife had told him he couldn't come home until he'd gotten rid of it. Among the machines still on his wish list are the '83 Jupiter Ace and the '84 Memotech MTX 512 ("It had a really neat look to it—black brushed metal").

Swenson keeps his collection in the Alexandria apartment he shares with his wife and baby daughter. He buys small machines bécause they all have to fit in the same closet with the baby's clothes.

"He's possessed," says his wife, Catherine. "We can't pass a flea market—any flea market—without stopping."

"Well," says Swenson, nodding carefully, "you never can tell what you might find. You just never can." —BILL HEAVEY

Another Orphan:
Music on the Tandy 102
Mark Fisher

I bought a small accordion! It brought
with it one liability - 25 keys of a
standard keyboard, and the necessity to
learn how to read music. From my extensive
piano lessons as an eight-year old, I
remembered that middle "C" was just below
those two black keys in the center - and
that was it. Now, with books full of
tempting songs just waiting to be let
loose from the page if only I could figure
out what those little spots were, I was
finally motivated to do something about
learning to read music.

Since I work with people every day that
were learning to read, surely I could
learn how that staff was arranged - after
all, I've gotten pretty comfortable with a
keyboard for typing.

Well, Maybe. It turns out that music
notation is a highly compressed form of
"information storage" - a little like
Hebrew, where the vowels are just assumed.

I thought of making a program that would
draw a musical staff, then print a note,
followed by sounding its pitch. I would
watch, trying to hit the right key for
each note before the machine beeped. I
honestly started on the QL - getting as
far as drawing a nice treble clef with ARC
commands. Then I started reading the docs
on the SOUND command. Oh well...

The QL can do all sorts of "sound effect"
types of changes, but there was no
documentation on the exact relation of
frequency to pitch command. The Tandy
docs, on the other hand, offered a four
octave table of correct note frequencies.
Besides, the T-102 would move to where I
wanted to be while I was practicing. Its
liability was MS-BASIC, and its creaky
commands for string handling.

The program works pretty well as it
stands, and I thought CATS members might
enjoy looking through the listing, as much
to cackle over the hoops I had to leap
through as anything else. Here goes:

```
10 REM staff learning 1993 Mark Fisher
20 GOSUB 2000 :REM setup
```

This is where the information portion of
the program is set up, then RETURNs to the
operation portion:

```
30 CLS:X=2
40 PRINT@X,:INPUT "(P)lay scale (E)xamine
(R)andom note";BA$
```

(P)lay scale is useful, but (R)andom note
is the prime exercise here. (E) only goes
to a non-functional de-bugging utility.

```
50 R=INSTR("PERper",BA$):IF R<1 THEN GOTO
30
60 IF R>3 THEN R=R-3
70 CLS:ON R GOSUB 100,200,300
80 GOTO 30
```

"R" will be 1,2 or 3 after line 60, and
will go to the corresponding sub in 70.

```
100 REM .... play scales ....
110 CLS:X=2
120 GOSUB 600: REM get key to play in
```

This subroutine selects the correct offset
for the scale sequence, and runs into the
sub at 650 that draws the staff.

```
130 FOR I=0 TO 7: GOSUB 1000: GOSUB 1500:
NEXT I:REM draw and sound note
140 FOR I=7 TO 0 STEP -1:GOSUB 1000: GOSUB
1500:NEXT I
150 BA$="":PRINT@0,:INPUT "Press <ENTER>
to cont. <KEY> to quit";BA$: IF BA$=""
THEN GOTO 100
180 RETURN
```

Line 150's first statement is due to an
amusing quirk of MS-BASIC: Pressing
<ENTER> with no other key after an INPUT
statement leaves the previous value of the
variable unchanged. THAT took a while to
figure out (undocumented, of course).

```
200 REM ... examine scale ....
210 REM nothing here
290 RETURN
```

Here's the real meat; a random sequence of
notes to follow, preventing me from
memorizing a pattern of keys rather than
reading what's on the staff.

```
300 REM ........ random note ........
310 INPUT "How many notes";M:IF M>14 THEN
M=14
320 INPUT "Spread over";SP:SP=SP-1
325 IF SP>M THEN SP=M
```

"M" and "SP" control how many and from
where the notes are selected: a few, and
close together being easier to master.
There's a fault in the logic here - should
the notes chosen cluster around the base
note (songs don't)?

```
330 GOSUB 600:REMget desired key;ba set
340 OF=14-N(0,BA):REM"OF"=number of staff
posns below ba
350 BA$=" 0 1 2 3 4 5 6 7 8 91011121314":
FOR I=0 TO M-1
360 IM=1+INT(RND(1)*SP)*2: J=VAL(MID$
(BA$,IM,2))-OF: BA$= LEFT$ (BA$,IM-1)+
RIGHT$(BA$,LEN(BA$)-(IM+1)):SP=SP-1
```

RND(1) means get a new value for RND - not
the possible spread of values. The other
choice is RND(0), which gives a repeat of
the last value produced (???). In
timexese, the second and third statements
would read: J=BA$(IM to IM+1): BA$=BA$(to
IM)&BA$(IM+2 to) Oh well...

```
370 P(I)=J:NEXT I
```

And now the "to play.." array is shuffled
and built up.

```
380 J=RND(1)*M:REM which of the notes
shall we play?
390 I=P(J)
400 GOSUB 1000:FOR J=1 TO 500:NEXT J:
GOSUB 1500
```

The "J" loop is a delay - no pause on the
T102.

```
410 IF X<225 THEN GOTO 380
420 CLS:INPUT"Again";BA$
430 IF BA$="N" OR BA$="n" THEN RETURN
440 CLS:X=2:GOSUB 650:GOTO 380
```

And now for the "works" of the program:

```
600 REM...  set key & draw staff...
610 CLS:INPUT "Base? (bCDFG)";BA$
620 K=(INSTR("BCDFGbcdfg",BA$)-1)MOD5:IF
K<0 THEN GOTO 610
630 BA=ASC(K$(K))-48: REM decode info from
K$()
```

```
650 CLS:PRINT@0, "Key of ";BA$,BA;"
semitones up":REM entry for screen re-draw
```

Draw five staff lines...
[Format is LINE (x1,y1)-(x2,y2)]

```
660 FOR I=1 TO 5
670 LINE (0,12+(I*8))-(239,12+(I*8))
680 NEXT I
```

And draw key signature, as coded in K$():

```
690 FOR I=2 TO LEN (K$(K)) STEP 2:IF
LEN(K$(K))=1 THEN RETURN
700 BA$=MID$(K$(K),I,1)
710 X=2:IFMID$(K$(K),I+1,1))"a"THENX=6
720 Y=(ASC(MID$(K$(K),I+1,1))MOD 32)+12
730 IF BA$="#"THEN GOSUB 800
740 IF BA$="b"THEN GOSUB 900
750 NEXT I
760 X=X+3:RETURN
800 REM ... draw sharp @ x ...
810 FOR J=0 TO 2 STEP 2
820 LINE (X-2,Y+1-J)-(X+2,Y-J)
830 LINE (X-1+J,Y+2)-(X-1+J,Y-2)
840 NEXT J
890 RETURN
900 REM ... draw flat @ x...
910 LINE (X,Y)-(X+2,Y+2),1,B
```

(Adding ,1,B draws a box - ,0,b would be
filled in.)

```
920 LINE (X,Y)-(X,Y-2)
990 RETURN
```

```
1000 REM ....note finder....(if I<0 then
note from next octave below is played)
1010 OF=INT(I/8)*12:IM=IMOD8:IF I<0 THEN
IM=(I+8) MOD 8: OF= -12
1020 REM ba=scale BAse at correct point
1030 REM of=OFfset (next higher or lower
octave) pointer, in # of semitones down.
1040 REM im=point in scale noted
1050 NO=BA+OF+(S(IM)):N=N(0,NO):X=X+7
```

```
1060 REM .... note draw ....
1070 REM no=note freq, n=staff position
1080 LINE (X,N*4+2)-(X+5,N*4+6),1,B
1090 IF N=0 OR N=2 OR N=14 THEN LINE
(X-1,N*4+4)-(X+6,N*4+4)
1100 RETURN
1500 REM note sound
1510 SOUND N(1,NO),30
1590 RETURN
```

```
2000 REM .... setup ....
2010 DEFINT A-Z:DIM N(1,24):REM n()=note
position, frequency
```

Dimensions have one more element than you expect — 0 to 2 is three elements. BUT string positions start at 1. Hmmm...

The note position is a relative index within the staff, counting middle "C" as 14. I chose this to simplify MY thought as I entered the data. I've inserted a procedure to translate that into actual screen position as the note is played.

The note frequencies give the values for each semitone of the musical scale within the given range. (Semitones correspond to ALL keys on the keyboard.)

```
2020 DATA 14,9394,14,8866,13,8368,12,7900,
12,7456,11,7032,11,6642,10,6269,10,5918,
9,5586,8,5272,8,4976
2030 DATA
7,4697,7,4433,6,4184,5,3950,5,3728,4,
3516,4,3321,3,3134,3,2959,2,2793,1,2636,
1,2484,0,2348
2040 RESTORE 2020
2050 FOR I=0 TO 24:READ
J:N(0,I)=J:READJ:N(1,I)=J:NEXT I
```

But music is not a smooth seamless flow of frequencies — what we think of as a scale follows the sequence in line 2060. (These point to what are the white keys in the key of "C".) The numbers are pointers into the table of note positions and frequencies.

```
2060 DATA 0,2,4,5,7,9,11,12
2070 DIM S(7):RESTORE 2060:FOR I=0 TO
7:READ J:S(I)=J:NEXT I:REM s()=scale
sequence
```

Aah Microsoft... "RND" dosen't give a random result. True with all machines, but this one sets the start point at one every time the program is run, resulting in the SAME sequence for each time the program is run. The following code moves the seed along a random amount each time the program starts.

```
2080 J=VAL(RIGHT$(TIME$,2))
2090 FOR I=1 TO J:J=RND(1):NEXT I:REM set
real rnd start
```

Since music is not a continuous flow of

frequencies, there is a need to specify what sequence of notes you are using — the KEY. K$() holds the data to offset the base scale the correct number of semitones, and to draw the standard key signatures for the five most common keys.

```
2100 DATA ":bXb1","0","2#H#t","5bX","7#H"
2110 RESTORE 2100:DIMK$(4):FOR I=0 TO
4:READ BA$:K$(I)=BA$:NEXT I:REM key
signatures and base offset
```

P() will hold the allowable keys to play for a given exercise. Since MS-BASIC cannot re-dimension an array without clearing all variables, it gets set up here.

```
2120 DIM P(13):REM play key array
2130 RETURN
```

Now I'll have to quit programming and start to learn music!

MTF

A QLuickie
MTF

...So I'm pasting up the n/l right now, see? And I want to reformat Mannie's review of the label program, only it has aquired line feeds and carriage returns at the end of each line during its long journey from QL, BBS, IBM format disk, RAM disk image to Quill doc file — which QUILL interperets as hard paragraphs, so its like HOURS before I can manually replace them, since REPLACE won't work on carriage returns, see?

The solution? Make sure paragraphs are separated by blank lines, then PRINT the page of the file that holds the document to a _LIS file. Dump everything, then IMPORT the _LIS file back, this time by paragraph, and reformat at will!

Like, Wow!

LABELS_BAS REVIEW
by Mannie Quintero

I don't recall ever seeing this small, useful program reviewed in CATS so here goes.

First, if you only need one label in a normal type size, e.g. Pica, it might be easier for you to OPEN#4, ser1(to your printer), set baud etc. if serial, and PRINT#4, "addressee's name": PRINT#4, "street address": PRINT#4,"city,state and zip" and CLOSE#4, especially if you've not used Duane's or Herb's CATALOG program and have to hunt for it on one of your disks

However, if you need more than a couple of labels, if you need them in a larger character size, and if they might need Attention lines or more lines in foreign addresses, then this program by Dennis Jones, available on QUANTA disk PF-1(printer utilities and fonts) is for you. It is Epson compatible and can be modified easily to work with other printers. It also lets you produce more than one of the same label if, for instance, you make up your own return address labels. The style of address can be left justified(normal) or centered like:

           Mr. J. Smith
           2456 Jones Road
           Smithfield AL 99999

The program has been around since 1984 and I use it mostly for package labels in the large type size printing on regular paper and using wide transparent tape to adhere label to wrapping.

The TS1000-to-TS2068 Leap
by C. H. Dickson

Featured presentation at the February meeting was J. CLIFFORD WATSON Jr.'s long-awaited tutorial about his tricks for turning TS-1000 Basic programs into TS-2068 Basic programs (that work!!).

Cliff said that he began wondering how to achieve this mini-quantum leap when the first 2068's appeared in 1982. His juices really began flowing when he spotted an article in the December, 1983 issue of SYNTAX on a program for Sinclairs by DAVID ORENSTEIN called "LOADER". This was a piece of software designed to handle the conversion of Sinclair Basic programs (and tokens) from the 1000 to the 2068 environments.

Cliff found that while not perfect, LOADER could still handle up to 256 tokens or token-like characters while producing reasonably good 2068 code.

He has since developed numerous customized techniques for coping with things like variables and data statements which may pop up when making such conversions. These techniques largely involve creative machine language programs that pave over land mines buried between the two Basics.

Cliff demonstrated this process using some commercial software from Sinclair called "CONVERSATIONAL SPANISH". From the cassette, he read the program into a 16K TS-1000, discarding some things and translating others using LOADER.

There are a few tokens LOADER doesn't recognize, such as "unplot". If Cliff is working with a TS-1000 program that uses "unplot" (such as "EPHEREMIS", an astronomy program), he gives that program some special machine language treatment.

With other variables massaged, the end result is a working—even enhanced—Spanish tutor which runs on the 2068 in exactly the same manner as the 1000, only better! Cliff's mission is done!

CATS Newsletter
P.O. Box 11017
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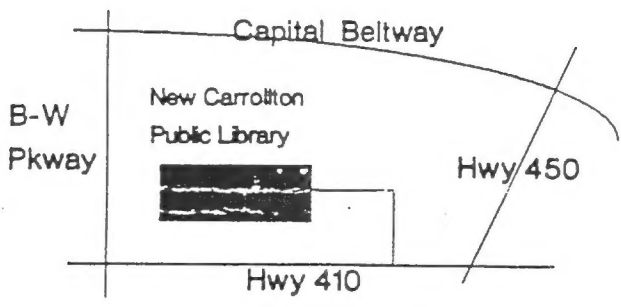
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last issue: *06-93
Donald S. Lambert
1301 Kiblinger Place
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The next meeting of CATS will be held on: March 13, 1993 - Saturday

11:00 AM Hardware Workshop
2:00 PM General Meeting

At: New Carrollton Public Library 7414 Riverdale Road (Hwy 410), New Carrollton, MD

IF YOU ARE NOT A MEMBER OF CATS. THIS IS THE ONLY ISSUE YOU WILL RECEIVE

PLEASE NOTE OUR NEW ADDRESS